

SYMES  
Appl. No. 09/960,728  
November 24, 2004

**AMENDMENTS TO THE DRAWINGS**

The attached sheets of drawings includes changes to sheets 1/4 and 3/4. These sheets, which include Figs. 1, 3 and 4, replace the original sheets including Figs. 1, 3 and 4.

**REMARKS/ARGUMENTS**

Claims 1-15 stand rejected in the outstanding Official Action. Claims 1, 4 and 15 have been amended and therefore claims 1-15 remain in this application.

The Examiner's acknowledgment of Applicant's claim for priority and receipt of the certified copy of the priority document is very much appreciated. Additionally, the Examiner's consideration of the previously submitted Information Disclosure Statements is very much appreciated.

The Examiner has objected to the title as not being descriptive of the claimed invention. Applicant has amended the title to clearly indicate the invention to which the claims are directed. It is noted that "single instruction multiple data" or SIMD operation is a known technique and term of art, thereby teaching one of ordinary skill in the art the subject matter of the claimed invention. However, Applicant has modified this to point out that the current invention is an improved SIMD processing method and apparatus. Accordingly, the title is believed to be clearly indicative of the invention to which the claims are directed.

The Abstract is objected to, with the reference to Figure 3 at the bottom of the Abstract. Applicant submits an amended Abstract in which this reference has been omitted, thereby obviating any further objection to the Abstract.

In section 5 of the Official Action, there are a number of objections to Applicants' specification. In each instance, the specification has been corrected as suggested by the Examiner, thereby obviating any further objection.

The drawings stand objected to in paragraph 6 of the Official Action for a number of reasons. Applicant encloses two replacement sheets of drawing making the changes and corrections noted by the Examiner. Consideration and entry of these replacement sheets is requested.

Claim 15 is objected to as being of “improper dependent form.” Presumably the Examiner’s concern is with respect to the computer program product in claim 15 being dependent from a method of data processing in claim 14. However, this issue has been decided by the Board of Appeals and it is well settled that Applicant may utilize a shorthand format by referring to a previous claim in order to avoid rewriting the particulars of the claim. In this instance, claim 15 avoids the necessity to rewrite the subject matter of claim 14 by merely referencing the method of claim 14.

This well known aspect of claim drafting has been confirmed as acceptable by the Board of Patent Appeals and Interferences in the case of *Ex parte Porter*, 25 USPQ2d 1144, 1147 (BOPAI 1992). Specifically, in the example noted in *Porter*, claim 6 was a method claim and claim 7 was an apparatus claim. Claim 6 was dependent from claim 7 and incorporated the subject matter of the apparatus claim 7 in claim 6. The Board noted that “while claim 6 could be construed as an independent claim, drafted in a short-hand format to avoid rewriting the particulars of the nozzle recited in claim 7, . . . .”

The Board held that “we do regard a claim that incorporates by reference all of the subject matter of another claim, that is, the claim is not broader in any respect, to be in compliance with the fourth paragraph of 35 USC §112.” *Id.* As a result, in the present

case, the product of claim 15 provides a value given by the method steps of decoding and executing set out in claim 14. Accordingly, claim 15, as originally submitted, meets all statutory requirements and is a proper dependent claim in accordance with the applicable Board of Patent Appeals and Interferences decisions. However, any further objection by the Examiner is obviating by Applicant's literal incorporation of the steps of claim 14 into claim 15 and any further rejection thereunder is respectfully traversed.

Claim 4 stands rejected under 35 USC §112 (first paragraph) as allegedly being non-enabled in the outstanding Official Action. The Examiner suggests that the previous feature of claim 4 that specifies "any amount of arithmetic right shift" is not supported by the specification. Applicant has amended the language of claim 4 to recite "a number of bit-positions representing an amount of arithmetic right shift."

While the Examiner correctly notes that the amount of right shift is limited by the size of the operand and is thus a "finite size," the amended language clarifies that the shift operation can specify a number of bit-positions which represent an amount of arithmetic right shift. Thus, a finite number of bit positions is indicated in claim 4 and is supported in Applicant's specification. In particular, the Examiner's attention is directed to the second full paragraph on page 7 of Applicant's specification as filed for a detailed discussion which supports the amendment to claim 4.

Further, it is noted that the Examiner's objection that shifting a 32-bit data word 100 times to the right is the equivalent to shifting the data word just 32 times to the right is of no consequence with regard to the enablement issue. Upon reading the claim, to

make technical sense, any person skilled in the art would realize that this is the case and would simply specify an appropriate shift amount. However, the above amendment to claim 4 is believed to obviate any further basis for objection to the claim under 35 USC §112 and any further rejection thereunder is respectfully traversed.

Claim 4 also stands rejected under 35 USC §112 (second paragraph) as being indefinite. The Examiner points to the word “any” as being *per se* indefinite. Obviously, the amount of right shift can be limited by the size of the operand and any person of ordinary skill in the art will clearly understand the same. There is no requirement in the second paragraph of §112 that claims be written in so definite a manner as even those not having ordinary skill in the art will understand and be able to apply the claim. Rather, the definiteness requirement is only to the extent that one of ordinary skill in the art can understand the metes and bounds of Applicant’s claim, thereby facilitating avoidance thereof.

One of ordinary skill in the art reviewing claim 4 will clearly understand that any amount of shift can be applied, but that there are practical limits. Therefore, claim 4 as originally presented is clearly definite under the provisions of 35 USC §112 (second paragraph). However, in view of the above amendment (as discussed above in conjunction with the first paragraph §112 rejection), the second paragraph rejection is believed to have been mooted.

Claim 15 stands rejected under 35 USC §112 (second paragraph) as being indefinite, as the Examiner suggests that it is not clear whether the claim is independent

or dependent. The Examiner's attention is directed to *Ex parte Porter* as noted above and in particular the quotation from the Board's decision confirming that the claim in the form presented was a clearly proper and clearly definite dependent claim. However, this objection has been obviated by the above amendment which rewrites claim 15 in independent form, thereby obviating any further objection thereto.

Claim 15 also stands rejected under 35 USC §101 because the claim is allegedly directed to non-statutory subject matter. The Examiner complains that the computer program is not tangibly embodied on a computer-readable medium. Applicant has amended claim 15 to confirm that the computer program is provided on a computer-readable medium, thereby obviating any further rejection under 35 USC §101.

Claims 1-12, 14 and 15 stand rejected under 35 USC §102(b) as being anticipated by Intel ("IA-64 Application Developer's Architecture Guide" May 1999). Applicant notes that at least the copy Intel provided by the Patent Office included only pages 7-117, 135, 150, 158, 169 and 182-184. As a result of the partial copy, it is entirely possible that there are other and more apparent reasons why Intel is not a reference against these claims under the provisions of 35 USC §102. However, even in view of the partial copy of the Intel document, it is apparently not an anticipatory reference.

For example, the Examiner at page 7 of the Official Action admits that "Intel's portions are modified before they are combined." The Examiner suggests that he uses the word "comprising" in Applicant's claim as a rationale for otherwise ignoring the teaching of the Intel reference. The Examiner's rationale is seriously flawed for the following

reasons. Applicant's independent claim 1 specifies three elements, i.e., (i) a shifting circuit; (ii) a bit portion selecting and combining circuit; and (iii) an instruction decoder. As a limitation on the instruction decoder, it performs an operation upon the data words Rn and Rm to yield a value given by the recited three-step process. It is noted that the phrase "said apparatus comprising" refers to the three structures recited in the claim. The three method steps serve to define the value provided by the instruction decoder. As will be readily apparent, any modification of the portions recited in the method for determining the value will change the value which is otherwise specified in claim 1.

The Examiner admits that in the Intel teaching the values "are modified before they are combined." As a result, they cannot possibly be combined so as to provide the value recited in Applicant's claim. The burden on the Examiner is to establish where each of Applicant's claimed elements is set out in the Intel reference.

The Examiner has admitted that Intel does not teach an instruction decoder for performing an operation upon a data word Rn and a data word Rm where the operation provides "a value given by" the sequence of recited steps. As a result, quite clearly Intel fails to disclose or render obvious the subject matter of Applicant's independent claim 1. Additionally, claim 15 specifies a computer program for controlling a computer to perform the steps of decoding and executing an instruction that provides the value where the value is defined in the same manner as the value in claim 1. Because this is missing from Intel's disclosure (as admitted by the Examiner), independent claims 14 and 15 cannot possibly be anticipated by Intel.

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As a result of the above, because independent claims 1, 14 and 15 define over the Intel reference, all claims dependent thereon similarly define over Intel and any further rejection thereunder is respectfully traversed.

Claim 13 stands rejected under 35 USC §103 as obvious over Intel as previously applied. Claim 13 ultimately depends from claim 1, and therefore because Intel fails to disclose or render obvious the subject matter of claim 1, claim 13 is clearly patentable in view thereof.

Having responded to all objections and rejections set forth in the outstanding Official Action, it is submitted that claims 1-15 are clearly patentable over the cited prior art and notice to that effect is respectfully solicited. In the event the Examiner is of the opinion that a brief telephone or personal interview will facilitate allowance of one or more of the above claims, he is respectfully requested to contact Applicant's undersigned representative.

Respectfully submitted,

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